**Bacteria Culture Lab**

Question: What is the dirtiest location at NBHS? (Determined by amount of bacteria that grows)

Hypothesis: Your group needs to decide what your hypothesis will be, remember to provide a reason why you think a particular place will be the dirtiest.

Materials:

* 4 Cotton Swabs
* Petri dish with prepared agarose gel
* incubator
* notebook
* marker (to write initials on the dish)
* dissecting microscope per group
* scalpel
* gloves
* iPad per group with pre-loaded applicable apps

Procedure:

*Days 1-4*

1. As a group decide where in NBHS you will swab for bacteria (4 places).
2. As a group decide who will be responsible for each quadrant of the petri dish
3. One person at a time (within your group) leaves the room to swab their pre-determined area with the cotton swab.
4. Sing the song “Mary Had a Little Lamb” while swabbing your location.
5. Bring back your cotton swab and GENTLY scrap your cotton swab on your designated quadrant of the petri dish.

|  |  |  |
| --- | --- | --- |
| **Person** | **Location** | **Quadrant #** |
|  |  | I |
|  |  | II |
|  |  | III |
|  |  | V |

1. Record your daily observations in the chart below. Be sure to record the growth in all quadrants and give a percentage of quadrant area covered with growth.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Day #** | **Quadrant I** | **Quadrant II** | **Quadrant III** | **Quadrant IV** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

*Day 5*

1. Wearing gloves, each group needs to set up a microscope and using the scalpel separate their four quadrants into four individual pieces.
2. The person responsible for each quadrant will place their piece of gel on the microscope stage and systematically count the number of bacteria colonies on their quadrant.

\*\*if you are unsure if what you have is fungus please ask for assistance

1. Record your group data in the following chart:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **I** | **II** | **III** | **IV** |
| **# of colonies** |  |  |  |  |

1. Discard of petri dish and the contents in the trash. Wipe down the microscope with an antibacterial wipe and wash hands.
2. Go to your group’s iPad and click on the DataAnlaysis App. Follow the directions from the reference sheet to input the data.
3. Once data is input then derive the correct equation and graph for the data.
4. Pick some future reference points and see what predications you can make based off your equations and graph.
5. Save final document as a PDF to insert into EduCreations.

*Day 6-7*

1. The group needs to create, edit, and submit a storyboard on Google Presentation.
2. Work as a group to complete the EduCreations project assignment. The criteria are an additional document on the wikispace. The project rubric is also posted. You will have the entire class period to complete and post your project.

*Day 8*

1. You will complete the project evaluations today.